

No. 710,006.

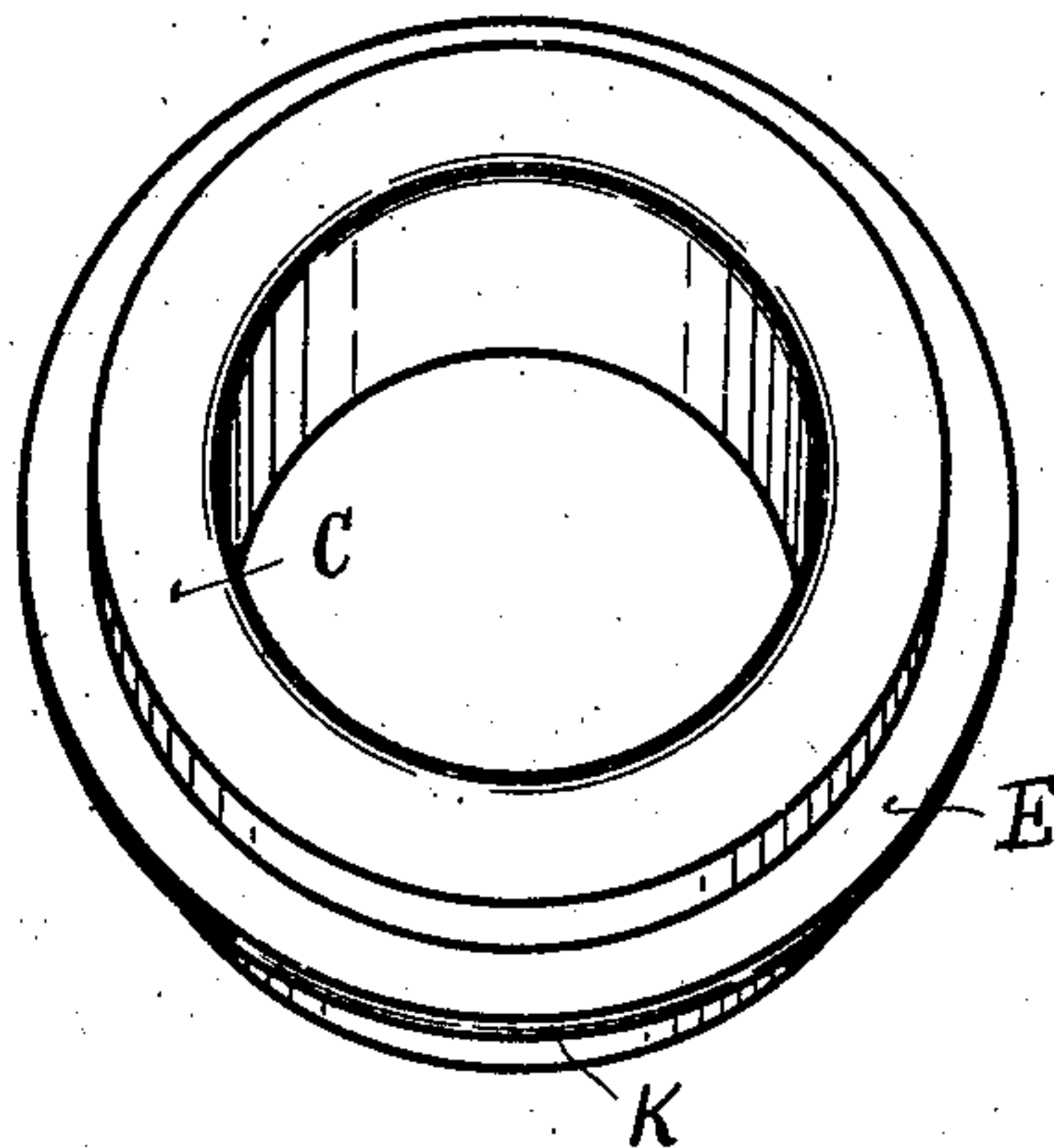
Patented Sept. 30, 1902.

G. H. RICKE.  
BUNG BUSHING.

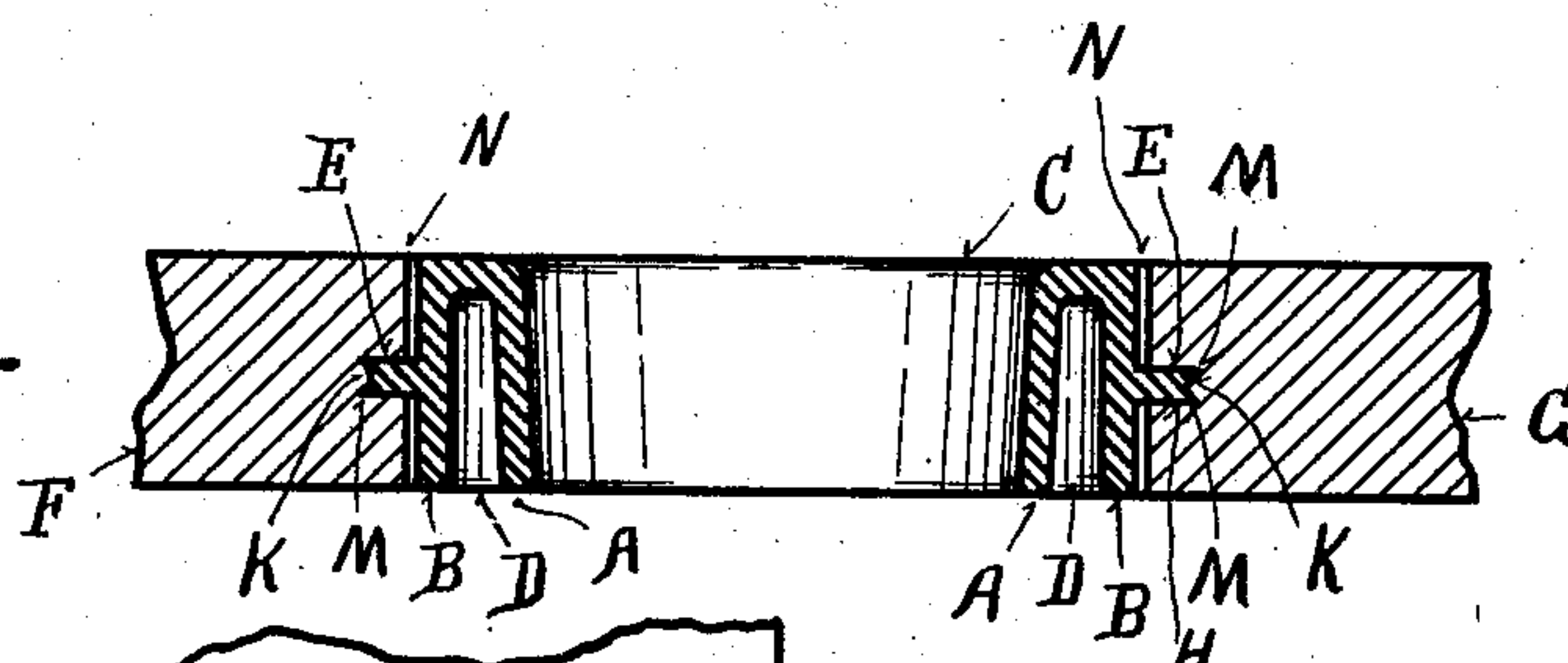
(Application filed Jan. 8, 1902.)

(No Model.)

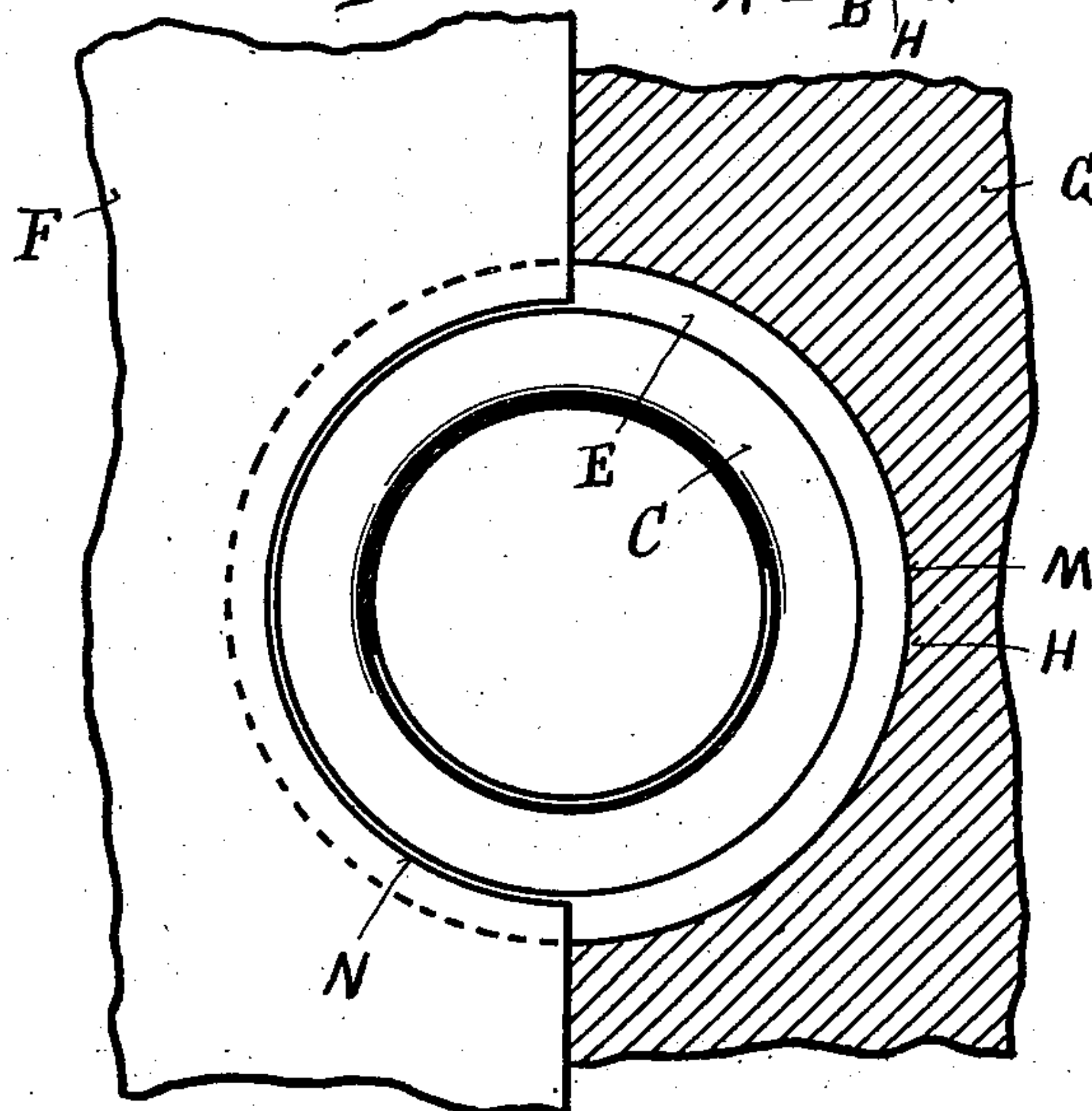
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

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## BUNG-BUSHING.

SPECIFICATION forming part of Letters Patent No. 710,006, dated September 30, 1902.

Application filed January 8, 1902. Serial No. 88,841. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. RICKE, a citizen of the United States, residing at Cincinnati, Hamilton county, and State of Ohio, have invented certain new and useful Improvements in Bung-Bushings, of which the following is a specification.

The object of my invention is to produce a cheap, simple, and efficient bushing for casks, barrels, and vessels in which a bung is used which will protect the stave or staves to which it is attached.

When used in connection with kegs or barrels for holding beer, the barrels or kegs are pitched. The pitch, heated to over 400° Fahrenheit, is sprayed into the keg or barrel through a pipe which enters the keg through a bung-hole, so that all parts on the inside of the keg are reached and covered with a coating of pitch. The bushing now used being thin and screwed into the stave transmits this great heat immediately to the narrow sides of the stave on each side of the bush, charring said wooden sides and charring the wood around the screw-threads of the screw-threaded bushing. This weakens the stave and it soon cracks, as it is rolled, and when the wooden bung is driven into the bung-hole with great force. When the pitch dries, considerable of it congeals around the bung-hole, and it is removed by inserting an incandescent-heated bar into the bung-hole. This intense heat also tends to weaken the bung-stave for the same reasons above set forth. I overcome these objections.

My bushing is provided with spaces which break the intense heat, and the heat which reaches the wood in the staves has no serious effect.

Under the custom now in vogue a special stave is picked, called the "bung-stave." It is wider, stronger, and of better material than the other staves which make up the keg or barrel and generally more costly. This stave must be picked in order to use the screw-threaded bung-bushing now in use, as if put into a narrow stave not enough space would be left on each side of the bushing for strength. The stave would become cracked

and broken at once. My improved bushing overcomes these objections, as it can be and is placed between any two staves of the barrel. No special stave need be provided or picked, and this being placed between two staves a wider space is left on each side of the bushing, preventing cracking and breaking from heat or any other cause. As the price of oak staves is rapidly increasing, the fact that I can use any staves and am not compelled to pick a special one is a great desideratum. The old bushing cannot be used over again, whereas mine can, as it can readily be removed.

Under the present system and with the present screw bung-bushing the bung-stave must often be removed and a new one put in its place. This is very costly. When my new bushing is used, this expense of repairing is done away with.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of my bushing; Fig. 2, a cross-sectional view thereof; and Fig. 3, a view of my bushing inserted, as it appears, between two staves, the staves being broken away at their ends and edges and also at one part to show how my bushing fits into the staves.

The bushing proper is formed of two rings, walls, or annular partitions A B, united at the top by the cap C, cast integral with said walls A B. Between these walls A B is an air-space D. This space can be varied in width and depth.

Cast integral with the wall B and encircling the entire periphery of the bushing is the bead, tongue, or flange E.

The staves between which the bushing is placed are represented by the letters F and G. In their edges around the bung-hole they are provided with the annular recess H, into which the flange E fits. This flange E at its outer edge is grooved, as shown at K, and also has the cutting edges M.

The walls A B may be made of any size or degree of incline. I may use one wall only, if desired, or I may use a greater number. The flange E may extend from the wall B at any angle desired and to any extent. I can



dispense with the cutting edges or use only one edge and leave out the groove K and make the flange of any shape.

I may make the bush of as many pieces as desired, but prefer to cast it as a whole. The cap C is curved so that it will conform to the curvature of the staves and lie flush therewith, so that in rolling the keg jarring is prevented.

10 If desired, I may place asbestos or other non-heat-conducting material in the space D, or, if desired, I can close the space D at the bottom.

The bushing is used as follows—to wit:  
15 The bung-hole is bored between any two staves, and then the recess or groove H is cut. The bushing is then slipped into place, the flange E entering the recess H, this recess H being cut somewhat narrower than the size of  
20 the flange E, so that when the hoops are driven the edges M on the flange E plow through and into the wood of the staves and form a tight joint. The wood also enters the groove K, and thus further assists in forming a tight  
25 joint.

The flange E and recess H are so arranged in size and depth that when the hoops are driven home a space N will be left between the edge of the staves and the outer edge of  
30 the bushing. The preferable way in which to form or leave this space N between the edges of the staves and the periphery of the bushing is to cut the groove or recess H less in depth than the width of the flange E, and  
35 by "width" is meant the extent of the flange outward from the periphery of the bushing. This space will break the intensity of the heat when the keg is being pitched; but its main purpose is to keep the staves from binding  
40 when they are tightened.

When beer kegs or barrels are returned to the brewery, they are cleaned and the hoops redriven to tighten the joints, and then they are again pitched before being filled. In this

retightening of the hoops they are driven on 45 tighter, and consequently the staves are more tightly drawn together. So to take up this tightness the space N is left; otherwise the staves would bind around the bush. This is an important feature and practically indis- 50 pensable.

It will be readily seen that my bush is cheap, simple, works efficiently, will preserve the staves, saves money, and prolongs the life of the keg. Of course I can use it in one stave, 55 but prefer to use it as described, so as to save the timber, this being the great desideratum.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. A bung-bushing comprising an annulus 60 adapted to lie within a bung-hole and carrying at its periphery a flange to enter a recess in the edges of the abutting staves around the bung-hole, said recess being of a less depth than the width of the flange, a space being 65 left between the edges of said staves and the periphery of the annulus, substantially as set forth.

2. A bung-bushing comprising an annulus 70 adapted to lie within a bung-hole and carrying at its periphery a flange having a cutting edge to enter a groove in the edges of the abutting staves around the bung-hole, said groove being of a less depth than the width of the flange, a space being left between the edges 75 of said staves and the periphery of the annulus, substantially as set forth.

3. In a device of the character described, an annulus carrying at its periphery a flange having a groove in its outer edge, said groove being 80 substantially shallower than the width of the flange, in combination with a pair of abutting staves between which the annulus fits.

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Witnesses:

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